

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 28

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte HISAYOSHI FUJIMOTO and TOSHIO AMANO

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Appeal No. 1999-2572  
Application 08/419,678

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HEARD: OCTOBER 16, 2001

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Before JERRY SMITH, RUGGIERO and BARRY, Administrative Patent Judges.

JERRY SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's rejection of claims 1-11, which constitute all the claims in the application.

The disclosed invention pertains to an inkjet printing head.

Representative claim 1 is reproduced as follows:

1. An inkjet printing head in which piezoelectric elements are flexed by a drive voltage applied thereto and cause a diaphragm, where the piezoelectric elements are disposed to, to shudder so as to eject ink through nozzles, the inkjet printing head comprising:

(a) a plurality of nozzles arranged in a plurality of rows on a head base plate, each of the nozzle rows being arranged in an inclined manner along a sub-scanning direction where a printing medium is moved, and each of the nozzle rows being spaced apart from an adjacent nozzle row by a distance which is at least twice a printing width; and

(b) a plurality of pressure chambers disposed on the head base plate, the pressure chambers being in communication with the nozzles, changing capacity in response to shudders of the diaphragm, and being arranged in two rows along the sub-scanning direction, in a vicinity of each nozzle row.

The examiner relies on the following references:

Chan et al. (Chan)	4,812,859	Mar. 14, 1989
Hirano et al. (Hirano)	5,235,353	Aug. 10, 1993
Rhoads et al. (Rhoads)	5,414,453	May 09, 1995 (filed Oct. 29, 1993)
Zandian et al. (Zandian)	5,485,183	Jan. 16, 1996 (filed June 30, 1993)
Kohei	EP 0,584,823	Mar. 02, 1994

Claims 1-11 stand rejected under 35 U.S.C. § 103. As evidence of obviousness the examiner offers Kohei in view of Zandian and Chan with respect to claims 1-7, adds Rhoads with

Appeal No. 1999-2572  
Application 08/419,678

respect to claims 8 and 9, and adds Hirano to the basic combination with respect to claims 10 and 11.

Rather than repeat the arguments of appellants or the examiner, we make reference to the briefs and the answer for the respective details thereof.

#### OPINION

We have carefully considered the subject matter on appeal, the rejections advanced by the examiner and the evidence of obviousness relied upon by the examiner as support for the rejections. We have, likewise, reviewed and taken into consideration, in reaching our decision, the appellants' arguments set forth in the briefs along with the examiner's rationale in support of the rejections and arguments in rebuttal set forth in the examiner's answer.

It is our view, after consideration of the record before us, that the evidence relied upon and the level of skill in the particular art would not have suggested to one of ordinary skill in the art the obviousness of the invention as set forth in claims 1-11. Accordingly, we reverse.

Despite the several rejections noted above, appellants

have indicated that for purposes of this appeal the claims will all stand or fall together as a single group [brief, page 4]. Consistent with this indication appellants have made no separate arguments with respect to any of the claims on appeal. Accordingly, all the claims before us will stand or fall together. Note In re King, 801 F.2d 1324, 1325, 231 USPQ 136, 137 (Fed. Cir. 1986); In re Sernaker, 702 F.2d 989, 991, 217 USPQ 1, 3 (Fed. Cir. 1983). Therefore, we will consider the rejection against independent claim 1 as representative of all the claims on appeal.

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art

Appeal No. 1999-2572  
Application 08/419,678

as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See Id.; In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976). Only those arguments actually made by appellants have been considered in this decision. Arguments which appellants could

have made but chose not to make in the brief have not been considered [see 37 CFR § 1.192(a)].

With respect to representative, independent claim 1, the examiner finds that Kohei teaches the claimed invention except that Kohei does not teach the nozzle arrays being arranged in an inclined manner along the sub-scanning direction and the nozzles being spaced by a distance which is larger than a printing width. Zandian is cited as teaching nozzle arrays being arranged in an inclined manner. Chan is cited as teaching that the spacing between nozzle arrays is not limited to the distance of one dot row. The examiner indicates that the claimed invention would have been obvious to the artisan in view of the collective teachings of Kohei, Zandian and Chan [answer, pages 3-5].

Appellants argue that Zandian and Chan fail to cure the admitted deficiencies of Kohei. Appellants also argue that there is no motivation to modify the nozzle spacing in Chan from "preferably" one to "at least two" printing widths. Finally, appellants argue that there is no motivation to modify Zandian's nozzle format with the teachings of Chan

[brief, pages 5-13].

The examiner responds that he interprets the disclosure in Chan that the spacing between nozzle arrays is not limited to the distance of 1 dot row in the paper advance direction to mean that the distance between nozzle arrays can be any desired value [answer, page 7]. Appellants respond that the suggestion in Chan that the printing width is preferably, but not limited to, 1 dot row apart does not suggest the obviousness of a distance which is at least twice a printing width as claimed [reply brief].

We agree with the position argued by appellants. A reference which suggests that a parameter should be one value, but does not have to be that value does not conclusively suggest the obviousness of any other specific value. In order to support a finding of obviousness, the examiner must explain why the specific value recited in the claim would have been obvious in view of the preferable value disclosed in the prior art. In this case, the examiner has improperly assumed that a prima facie case of obviousness for every other value besides the preferable value disclosed by Chan is automatically established. Thus, the examiner has not established a prima

facie case of obviousness for the recitation in claim 1 that "each of the nozzle rows being spaced apart from an adjacent nozzle row by a distance which is at least twice a printing width."

We also agree with appellants that the examiner has not properly explained the motivation for combining the teachings of Chan and Zandian. The examiner's original motivation was based on the alleged fact that Chan was cited within Zandian. Appellants noted that Zandian referred to a different Chan patent and that the Chan patent relied on by the examiner has a different nozzle format than Zandian. Appellants argue that because of these different nozzle formats, one of ordinary skill in the art would not have been motivated to modify the nozzle format of Zandian with the teachings of the Chan patent used by the examiner. The examiner has not responded to this persuasive argument by appellants.

For the reasons discussed above, we do not sustain the examiner's rejection of claims 1-7 based on the collective teachings of Kohei, Zandian and Chan. Since the additional references of Rhoads and Hirano do not overcome the



Appeal No. 1999-2572  
Application 08/419,678

deficiencies noted above, we also do not sustain the  
examiner's rejection of claims 8-11. Therefore, the decision  
of the examiner rejecting claims 1-11 is reversed.

REVERSED

JERRY SMITH	)	
Administrative Patent Judge	)	
	)	
	)	
	)	
JOSEPH F. RUGGIERO	)	BOARD OF PATENT
Administrative Patent Judge	)	APPEALS AND
	)	INTERFERENCES
	)	
LEONARD LANCE BARRY	)	
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